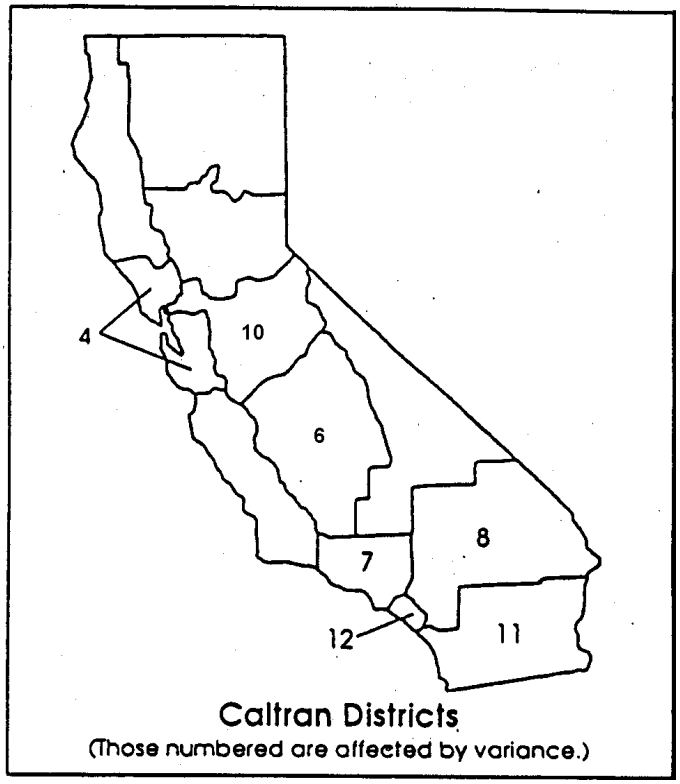
FACT SHEET

State of California
California Environmental Protection Agency
Department of Toxic Substances Control

Variance for Caltrans Districts 4,6,7,8,10,11,12
For Reuse of Lead-Contaminated Soils

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), prepared this fact sheet to describe the request of California Department of Transportation (Caltrans) District 4,6,7,8,10,11,12 to collect and reuse soil containing low levels of aerially deposited lead. The request applies only to various freeway construction sites in the specified Caltrans Districts. Normally, state and federal environmental rules would require Caltrans to go through a complex bureaucratic process to deal with every location in which crews found lead in the soil. Those same rules, however, allow DTSC to grant what is called a "variance" if certain conditions are met. This fact sheet covers:

- Background
- Caltrans Request
- Health Risk Assessment
- The Variance
- Information Sources



Caltran Districts
(Those numbered are affected by variance.)

The variance will allow Caltrans to reuse soil containing lead, as long as it is handled properly, replaced along the same section of highway (within a designated freeway corridor), and covered with non-hazardous soil or pavement. The goals are to make sure that the lead will stay where it is placed and that neither humans nor animals can come into contact with it. The variance will be in effect for five years. Caltrans is the state agency that builds and maintains the state's highways. Several of those highways need to be widened because so many cars and trucks use them. When Caltrans widens a road, it either fills in the median, the area between existing lanes of traffic, or it makes another lane from the existing shoulder.

Until the mid- 1980s, gasoline and other fuels contained lead, a toxic metal. As each car or truck traveled the highways, tiny particles of lead came out in the exhaust and settled on the soils next to the road. Most of the

time, lead tends not to move very far or very fast in the environment. Over the years, lead built-up alongside the highways.

Caltrans highway-widening projects disturb the soil, some of which contains this lead. DTSC's regulations specify at what levels lead in soil is considered to be a hazardous waste. In some areas where construction will occur, Caltrans has found levels of lead that are higher than allowed. For the most part, Caltrans found lead within 30 feet of the edge of the pavement, and within the top six inches of soil. Sometimes, the lead is as deep as two to three feet below the surface. Because the soil contains these levels of lead, Caltrans must comply with environmental regulations or seek a variance from the regulations.

CaItrans Request

In April 1996, Caltrans asked DTSC to grant a variance from the hazardous waste rules to allow road construction projects to reuse lead containing soils on the project site. Although the level of lead found in some areas is higher than that what is considered to be a hazardous waste, Caltrans stated that it could reuse the soil along the roadway under construction without the lead posing a threat to human health or the environment.

Caltrans identified several potential uses for the soil containing lead. Those include:

- to build embankments at freeway overcrossings and interchanges;
- for the small hills Caltrans sometimes creates along parts of roads;
- to use as backfill for structures, to replace soils which construction crews remove to construct sound walls and the like;
- to re-fill trenches and holes created by removing obstacles, such as trees and barriers that am no longer needed;
- as roadbase fill, to level-out the ground;
- to raise ground level for building park-and ride lots; and to put under new roads.

Caltrans stated that each of these proposed uses keeps the lead-containing soil in defined areas. Also, those are areas in which people spend little, if any, time so they would not come into contact with the lead.

In addition, Caltrans has incorporated special sections in its contracts with the construction contractors. Those sections would require contractors to handle the lead-containing soil in certain ways. For example, soil found to contain lead would be kept separate from non-hazardous soil, and the contractor would have to take dust control and security measures to keep people from coming into contact with it until it was reused.

Finally, the lead would stay in place (beneath the roadway, etc.) for the life of the highway. Even though modem freeways are designed to last only 30 to 50 years, Caltrans notes that additional upgrades and widening are much more likely than abandoning old freeways. Therefore, the lead remains secure, and human health and the environment are protected.

At present, the Caltrans Districts 4,6,7,8,10,11, and 12 offices are developing construction projects where Caltrans expects that contractors will find lead in the soil. Those freeway projects are described in a Project Summary List available from DTSC. Anyone interested in obtaining a Project Summary List should contact DTSC Public Participation Coordinator, Randy Sturgeon by calling (916) 255-3649. Caltrans requested that the variance apply to projects in the counties identified, over a period of five years. However, the list will change over time as new projects are added.

Health Risk Assessment

In reviewing the variance request, DTSC scientists studied how people might be exposed to the lead left in soil, and how best to protect their health. These scientists concluded that Caltrans could reuse soil containing lead as long as the lead is below a certain level, and if people are kept from coming into contact with the lead-containing soil. This section describes the DTSC scientists' conclusions about the potential risks from the lead and how those risks can be reduced.

Lead is toxic, and it is present everywhere in the environment, most often at very low levels. If lead gets into the body above certain levels, it can cause damage to the nervous system or blood cells. Children are at the highest risk because their bodies are still developing. In children, even relatively low blood lead levels can cause learning disabilities. However, lead must enter the bloodstream to be harmful.

People can absorb lead into their blood in several ways. Adults, and especially children, swallow lead that is attached to small dirt particles, either blowing around and getting into their mouths, or on their hands. People can also swallow lead if it has gotten into drinking water. There are other "routes of exposure," as the scientists call them, but DTSC does not believe that those routes apply in this case.

The variance takes into account the scientists' conclusion that people should not be exposed to levels of lead above those found throughout the environment. It specifies what Caltrans can do with soil containing lead, as described below.

The Variance

After reviewing Caltrans' request for a variance, and consulting with its health risk scientists, DTSC hazardous waste mangers decided to approve the variance, with special provisions. This section outlines key conditions of the variance.

- Caltrans must sample and test soils for lead content.
- When implementing the variance, Caltrans must obtain the approval of other state, regional, and local regulatory authorities, as appropriate.
- Caltrans must take certain steps when lead is at or above specified levels (see table on next page).
- Caltrans will properly dispose of lead containing soil for which it has no use.
- Caltrans will be restricted to reuse the soils in areas at least five feet above maximum water table elevation.
- Caltrans must keep whatever lead containing soil that it digs up in the area of contamination, and must keep it covered with thick plastic until it is reused.
- Caltrans may only reuse the soil within the designated freeway corridor from which it came.
- Caltrans will not reuse the lead-containing soil where the soil could come into contact with workers (others are unlikely to be on or near freeways for any prolonged period of time), plants, ground or surface water, and the soil must be placed where it will be protected from erosion and runoff.

- Caltrans will keep records and provide detailed reports to DTSC when it handles the soil containing lead. Caltrans will make copies of those records available to the public at applicable Caltrans District offices and at the appropriate field engineer offices.

The variance contains several other detailed technical requirements, as well. Finally, it should be noted that as Caltrans plans and designs its highway projects, each project must comply with federal as well as state environmental quality laws.

To put the numbers shown in the table in context, soil containing lead is considered a hazardous waste if the total lead level is more than 1,000 parts per million (ppm), or if the soluble lead level is more than 5 ppm. Soil naturally has small amounts of lead in it, about 50 ppm. City soils commonly contain 200 to 500 ppm of lead.

Extractable Lead[1]	Total Lead[2]	Caltrans may take the following steps
less than 0.5 ppm	less than 350 ppm[3]	Soil may be reused, as long as it is placed at least five feet above the maximum water table elevation and covered with one foot of non-hazardous soil.
more than 0.5 ppm and less than 50 ppm	less than 350 ppm[4]	Soil may be used as fill, as long as it is placed five feet above the maximum water table elevation and covered with pavement or similar cap.

[1] These numbers relate to tests that determine if lead is likely to move in water through the environment. The figures are in parts per million, and are approximate conversions from micrograms per liter.

[2] Total Lead is the total amount of lead in the soil. The numbers are shown in parts per million, approximate conversion from milligrams per kilogram.

[3] Total ppm lead shall be at or below the statutory limits in effect when the soil is used as fill or the risk based limit of 1496 mg/kg, whichever is less. On the effective date of this variance, HSC section 25187.8 limits total lead concentrations to 350 ppm. That section may be amended and/or expire in the future. Additionally, other parts of relevant statutes may be added or amended in the future to include lead limits applicable to this variance.

[4] Total ppm lead shall be at or below the statutory limits in effect when the soil is used as fill or the risk based limit of 3979 mg/kg, whichever is less. On the effective date of this variance, HSC section 25187.8 limits total lead concentrations to 350 ppm. That section may be amended and/or expire in the future. Additionally, other parts of relevant statutes may be added or amended in the future to include lead limits applicable to this variance.

Information Sources

Because this variance applies to Caltrans activities in multiple counties for a period of five years, DTSC has required that Caltrans establish a central point of contact and put in place methods for making information available to interested members of the public. The Caltrans District offices will maintain information about the variance and about instances when soil containing lead is handled. As indicated below, the District offices can refer people to the field engineer's office where project-specific information can be found. In addition, the DTSC contact is also available to answer questions. The full Administrative Record pertaining to this matter is available for review at the DTSC address shown below. Anyone interested in obtaining copies of this or future fact sheets about the project should contact DTSC Public Participation Coordinator, Randy Sturgeon, by calling (916) 255-3649.

Cal/EPA-DTSC

Headquarters
Contact: Bob Piacentini
400 P Street 4th Floor
P.O. Box 806
Sacramento, CA 95612
(916) 322-4819

Caltrans Headquarters

Ed Imai or Julia Turney
1120 N Street, MS 27
Sacramento, CA 95814
(916) 653-3876

Central Valley

Caltrans District 10
Contact: Dale Jones
1976 E. Charter Way
P.O. Box 2048
Stockton, CA 95201
(209) 948-3811

Caltrans District 6
Contact: Agnes Jenkins
1352 W. Olive Ave.
Fresno, CA 93728
(559) 243-8234

San Francisco Bay Area

Caltrans District 4
Contact:Celia McCuaig
111 W. Grand Avenue
P.O. Box 23660
Oakland, CA 94623-0660
(510) 286-5659

LA/San Bernardino

Caltrans District 7
Contact: George Ghebranious
120 South Spring Street
Los Angeles, CA 90012
(213) 897-0693

Caltrans District 8
Contact: Tony Louka
464 West 4th Street, 6th Floor
San Bernardino, CA 92402
(909) 383-6385

Orange Co./San Diego

Caltrans District 11
Contact: Jayne Dowda
2829 Juan Street, MS 46
San Diego, CA 92110
(619) 688-3377

Caltrans District 12
Contract:Reza Aurasteh
3347 Michelson Drive, # 100
Irvine, CA 92612
(714) 724-2097

DTSC will accept written comments on the proposed Negative Declaration until August 27, 2000. Send comments to Bob Piacentini at the Cal/EPA DTSC Headquarters address or e-mail to rpaicent@dtsc.ca.gov. At the close of the comment period, DTSC will make the final decision after considering all comments. All commentors will receive responses and be notified of the decision.

Cal/EPA DTSC Headquarters, Attn: Bob Piacentini, P.O. Box 806, Sacramento, CA 95812-0806